

# PATENT DISCLOSURE

## Title:

Self-Contained, Layered Hollow-Core Incense Cone with Integrated Charcoal Tip for Staged Aroma Release

## Inventor:

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## Field of Invention:

This invention relates to incense articles, specifically a hollow-core, layered incense cone with an integrated charcoal-based tip for sequential vaporization and combustion of high-value aromatics (such as oud/agarwood), with a built-in aroma timer for meditation or ritual use.

## Background:

Traditional incense cones and sticks burn aromatics and base material together, resulting in rapid combustion and loss of delicate aroma notes. In Middle Eastern and South Asian practices, oud is often heated with a separate burning coal on top, first vaporizing oils for fragrance and only later combusting the carbonized residue. This manual process is not portable or user-friendly for modern incense use. Homogeneous cones lack staged burning and aroma control, resulting in loss of aromatic fidelity and user experience.

## Summary of Invention:

The invention comprises:

- A conical incense article with a matching conical hollow core (tip to base), pressed to produce a uniform wall thickness. The outer shape may be selected from:
  - **Classic cone (pointed)**
  - **Rounded cone (dome-shaped)**
  - **Volcano (truncated cone with crater or opening at the apex)**  
In all cases, a hollow core matching the outer shape is formed, enabling even

burn and airflow.

- An integrated tip section composed of heat-generating material (e.g., bamboo charcoal, makko, or other suitable incense combustion aid), affixed or molded at the cone apex or as a ring in the case of volcano/crater forms.
- An upper aromatic layer (e.g., oud/agarwood powder), occupying the majority of the cone's volume and mass, engineered for optimal vaporization and combustion profile.
- A lower aromatic layer (e.g., sandalwood), forming the base, engineered for aroma transition and signaling the end of the session.
- All components are dry-pressed (optionally with a small amount of natural binder if required for cohesion) at a target density (0.33–0.37 g/cm<sup>3</sup>) and ideal humidity (45–55% RH).
- The hollow core is formed using a removable core tool matching the selected outer shape during pressing, mirroring the outer profile for consistent burn rate and wall thickness.

## Detailed Mechanism of Action:

Upon ignition, the integrated charcoal tip begins to glow and radiate heat into the underlying oud layer. For the initial phase, this heat vaporizes volatile aromatic oils without direct combustion, closely mimicking the effect of placing raw oud under a glowing coal (as in traditional Middle Eastern oud rituals). As vaporization completes, the local oud is transformed into a carbon-rich char. Only then does combustion progress, consuming the charred oud. This staged mechanism—vaporization, carbonization, then combustion—delivers a sequence of aroma release phases, maximizing fragrance quality and minimizing loss to direct burning. After a predetermined time (e.g., 25–28 minutes), the combustion front reaches the lower aromatic layer (e.g., sandalwood), providing a natural aromatic “signal” or timer for meditation or ritual use.

## Key Claims (Draft):

1. A self-burning incense article comprising:
  - a. An outer conical, rounded, or volcano-shaped body with a matching hollow core;
  - b. A tip composed of bamboo charcoal, makko, or other suitable heat-generating material;
  - c. An upper pressed layer of a first aromatic botanical powder;
  - d. A lower pressed layer of a second aromatic botanical powder;
  - e. The cone constructed such that the combustion front progresses sequentially from tip

to base, vaporizing and combusting the upper layer for a predetermined duration before reaching the lower layer.

2. The article of claim 1, wherein the hollow core and outer wall are dimensioned such that wall thickness remains substantially uniform from tip to base.
3. The article of claim 1, wherein the tip section is 0.27–0.5 cm in height and 0.004–0.007 g in mass.
4. The article of claim 1, wherein the upper aromatic layer is dimensioned to burn for approximately 25–28 minutes and the lower layer for the subsequent 2–5 minutes, effecting an aroma “timer” transition.
5. The article of claim 1, wherein all botanical powders are dry-pressed at a density of 0.33–0.37 g/cm<sup>3</sup> and stored at a humidity of 45–55% RH.
6. A method of staged aroma release comprising igniting the tip of the article in claim 1, wherein:
  - a. The tip radiantly heats the upper layer to vaporize volatile oils before combustion,
  - b. The combustion front propagates through the upper layer, and after a predetermined interval, transitions to the lower aromatic layer, thereby signaling a time period completion.

## Preferred Embodiments:

- **Classic cone:** 1.6 cm height, 1.0 cm base diameter, 0.4 cm conical hollow core, tip height 0.3 cm.
- **Rounded cone:** 1.5 cm height, 1.1 cm base diameter, 0.4 cm rounded conical hollow core, tip height 0.3 cm.
- **Volcano/crater:** 1.2 cm height, 1.1 cm base diameter, 0.5 cm hollow crater/core, tip as a ring or partial cap, all other parameters scaled to achieve ~30-minute burn.
- Upper aromatic layer (oud): 1.0–1.1 cm height, 0.12–0.14 g mass (at 0.35 g/cm<sup>3</sup>), adjusted for shape.
- Lower aromatic layer (sandalwood): 0.2–0.3 cm height, 0.02–0.03 g mass.
- Hollow core: Formed with core tool matching outer profile.

- Manufacturing: Powders loaded and pressed sequentially with mandrel in place, demolded and stabilized at 45–55% RH.

## **Mechanism Comparison with Traditional Oud Burning:**

Traditional Middle Eastern oud burning involves placing oud under a separate coal, vaporizing oils for fragrance, and later burning the residual char. The present invention embeds the heat source (charcoal tip) directly within the cone, automating the vaporization and carbonization sequence. This allows the article to function as a self-contained, portable, and repeatable aroma delivery system, reproducing the nuanced, high-quality aroma experience of traditional methods without the need for separate charcoal handling or user intervention. Homogeneous incense cones lack this staged burning and vaporization process, resulting in simultaneous combustion of oils and base material, which diminishes aroma quality.

## **Variations and Scope:**

- Aromatic layers may be any botanical powder (oud, sandalwood, frankincense, etc.).
- Tip may use any clean-burning, heat-generating material (bamboo charcoal, makko, etc.).
- Hollow core may be adapted to cylindrical or conical shapes to optimize burn profile.
- Outer shapes include rounded, classic cone, or volcano, with matching hollow.
- Timer interval may be engineered by adjusting layer thickness, density, or material selection.

## **Advantages:**

- Maximizes aromatic fidelity and staged release
- Integrates high-fidelity vaporization phase without external tools
- Self-contained, portable, and precise aroma timer
- Consistent and repeatable user experience

## **Drawings/Figures:**

